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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,580	01/24/2005	Luc De Vuyst	DECLE69.003APC	9933

20995 7590 09/30/2008
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EXAMINER

FERNANDEZ, SUSAN EMILY

ART UNIT	PAPER NUMBER
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1651

NOTIFICATION DATE	DELIVERY MODE
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09/30/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

The amendment filed April 1, 2008, has been received and entered.

Claims 38 and 39 are new. Claims 1-39 are pending.

Election/Restrictions

Applicant's election with traverse of Group I, drawn to *Streptococcus thermophilus* ST 111 and a method of using a culture of the strain for fermentation, in the reply filed on June 11, 2007, was acknowledged in the previous office action. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 6-18, 22-31, 36, and 37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

Claims 1-5, 19-21, 32-35, 38, and 39 are examined on the merits to the extent they read on the elected subject matter.

Claim Objections

Claim 39 is objected to because of the following informalities: It is suggested that every recitation of "Mozzarella Cheese" be replaced with "mozzarella cheese." Appropriate correction is required.

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Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, and 19-21 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Lemoine et al. (US 5,965,127) or Faber et al. (Carbohydrate Research. 1998. 310: 269-276, listed on IDS).

Lemoine et al. discloses an exopolysaccharide originating from *Streptococcus thermophilus* (column 2, lines 18-22) which was eluted at the exclusion limit of approximately 2×10^6 Dalton (column 4, lines 20-30), thus having a molecular weight of approximately 2×10^6 Dalton. The exopolysaccharide comprises various monosaccharides (column 2, lines 18-22) and is therefore considered a heteropolysaccharide. The exopolysaccharide is prepared by fermentation of a growth medium comprising skim milk powder by a strain of *Streptococcus thermophilus* (column 3, lines 55-67). This fermentation could be considered the fermentation of a milk product (food product). Furthermore, Lemoine et al. teaches a food composition comprising a live bacteria producing or having produced in-situ the exopolysaccharide (column

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3, lines 34-38). Example 3 describes the inoculation of whey milk with a culture of *S. thermophilus* (column 7, line 60 through column 8, line 24). Clearly, Lemoine et al teaches an *S. thermophilus* strain which produces a heteropolysaccharide having a molecular weight of at least 2×10^6 Dalton, as well as a functional starter culture used in a dairy food fermentation process which yields the heteropolysaccharide.

Faber et al. discloses a milk culture of strains of *S. thermophilus* which produce exopolysaccharides with an average molecular mass of 2.6×10^3 kDa (2.6×10^6 Da) or 3.7×10^3 kDa (3.7×10^6 Da) (abstract). The exopolysaccharides are heteropolysaccharides (page 273, second column, second full paragraph). It is noted that milk cultures are inoculated with the strains of *S. thermophilus* (page 274, first column, second-to-last paragraph). It is noted that microbial exopolysaccharides are useful as food thickeners (page 269, second column) and that *S. thermophilus* strains are used in combination with *L. delbruckii* subsp. *bulgaricus* strains as commercial yoghurt starters (page 270, first column, first full paragraph). In sum, Faber et al. teaches an *S. thermophilus* strain which produces a heteropolysaccharide having a molecular weight of at least 2×10^6 Dalton, as well as a functional starter culture used in a dairy food fermentation process which yields the heteropolysaccharide.

Though Lemoine et al. and Faber et al. do not specify that any one of the *S. thermophilus* strains disclosed is the *S. thermophilus* ST 111 strain deposited under the accession number LMG P-21524, the *S. thermophilus* strains disclosed in Lemoine et al. and Faber et al. appear to be identical to the presently claimed strain, based on the fact that the prior art strain is a member of the same species and that the prior art strain produces a heteropolysaccharide having a

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molecular weight of at least 2×10^6 Dalton. Consequently, the claimed strain appears to be anticipated by the reference.

However, even if the Lemoine and Faber strains and the claimed strain are not one and the same and there is, in fact, no anticipation, the Lemoine and Faber strains would, nevertheless, have rendered the claimed strain obvious to one of ordinary skill in the art at the time the claimed invention was made in view of the fact that the references disclose members of the same species as that claimed known to synthesize a heteropolysaccharide having a molecular weight of at least 2×10^6 Dalton as that recited in the claims. Thus, the claimed invention as a whole was clearly prima facie obvious especially in the absence of sufficient, clear, and convincing evidence to the contrary.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 19-21, 32-35, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemoine et al. or Faber et al. in view of Cravero (US 6,033,691).

As discussed above, Lemoine et al. and Faber et al. anticipate or render obvious claims 1, 2, 4, 5, and 19-21. However, Lemoine et al. and Faber et al. do not expressly disclose a co-culture comprising the exopolysaccharide-producing strain.

Cravero discloses a preparation of a biologically active milk product wherein *Lactobacillus casei*, *Lactobacillus acidophilus*, and *Streptococcus thermophilus* are cultured together with a milk product to arrive at a fermented milk product (claim 1).

At the time the invention was made, it would have been obvious to the person of ordinary skill in the art to have used a co-culture of *Streptococcus thermophilus* in preparing a fermented milk product as disclosed in Lemoine et al. and Faber et al. Both Lemoine et al. and Faber et al. teach preparation of a fermented milk product by inoculation with *S. thermophilus*, and since Cravero discloses that a co-culture comprising *S. thermophilus* is suitable for obtaining such a product, there would have been a reasonable expectation of success in using a co-culture comprising *S. thermophilus* in the fermentation processes described in Lemoine et al. and Faber et al. Such a modification would have arrived at the predictable result of obtaining a fermented milk product.

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Further still, it would have been obvious to have inoculated any milk product, including those recited in claims 21, 35, 38, and 39, since the substitution of one milk product for another would have yielded the predictable result of obtaining a fermented milk product.

A holding of obviousness is clearly required.

Response to Arguments

Applicant's arguments filed April 1, 2008, have been fully considered but they are not persuasive. The applicant points out that the two *Streptococcus thermophilus* strains disclosed in Faber et al. are very different as they have huge differences in viscosifying properties of their milk properties. However, the applicant has not demonstrated how these strains differ from the claimed strain. Further still, as pointed out in MPEP 2144.09, Section VII, "A prima facie case of obviousness based on structural similarity is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties." Differences in the properties of the claimed strain and the prior art strains must be demonstrated for determination of nonobviousness.

The applicant has also pointed out that the *Streptococcus thermophilus* strains taught by Faber et al. are distinct from the claimed strain since they have different origin (specifically, originating from different countries). However, it is unclear that their origins affect the chemical and physical properties of the strains.

With respect to Lemoine et al., the applicant argues that the EPS produced by the *Streptococcus thermophilus* strain of Lemoine et al. has a different repeating unit from that disclosed in the EPS disclosed in the instant application. However, as pointed out in MPEP

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2144.09, Section VII, "If the prior art compound does in fact possess a particular benefit, even though the benefit is not recognized in the prior art, applicant's recognition of the benefit is not in itself sufficient to distinguish the claimed compound from the prior art." Though the EPS produced by the Lemoine strain is different from that disclosed in the instant application, there is no evidence to demonstrate that the Lemoine strain cannot also produce the same EPS as that disclosed by the claimed strain. Moreover, the claims under examination do not recite specifics of the structure of the EPS produced by the claimed strain. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The applicant also asserts that the exopolysaccharide of the claimed strain has exceptional stability which is an unexpected result since there is no suggestion, let alone teaching in Faber et al. and Lemoine et al. that stable, high molecular mass EPS is obtained by their strains. However, the discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new. As pointed out in MPEP §2112, "the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable". Given that Faber et al. and Lemoine et al. produce exopolysaccharides which meet the molecular weight limitations recited in the instant claims and serve the same purpose, the prior art strains render obvious the claimed strain.

No claims are allowed.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUSAN E. FERNANDEZ whose telephone number is (571)272-3444. The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon B Lankford/
Primary Examiner, Art Unit 1651

Susan E. Fernandez
Examiner
Art Unit 1651

sef